

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (*Currently Amended*) A method for multiple access in a radio communication system that employs time division multiple access techniques, such that a signaling multiframe is used in ~~both transmission directions~~ for interchanging signaling messages between at least one fixed unit and a set of remote units located within the coverage area associated with said fixed unit, wherein in that the signaling multiframe is formed by a predetermined number of virtual identities for signaling which are independent of the true identities of the remote units and generated by a first controller means included in the fixed unit, such that the first controller means increases or/and decreases the predetermined number of virtual identities for signaling based on the level of occupancy of the signaling multiframe, wherein a remote unit only uses a virtual identity in the signaling multiframe when sending a message and releases the virtual identity after the message transmission is complete.

2. (*Previously Presented*) The method for multiple access according to claim 1, wherein the number of virtual identities is less than the number of the remote units.

3. *(Previously Presented)* The method for multiple access according to claim 2, wherein the virtual identities are broadcast by a first radio transmitter included in the fixed unit over a pilot channel in the downlink transmission direction.

4. *(Previously Presented)* The method for multiple access according to claim 3, wherein the pilot channel is received by means of a second radio receiver included in a remote unit and being fed to a second controller means for recording the predetermined number of virtual identities for signaling.

5. *(Previously Presented)* The method for multiple access according to claim 4, wherein a virtual identity is selected by the second controller means when the remote unit wishes to transmit a signaling message via a second radio transmitter, and the second controller means inserts the signaling message into the virtual identity selected and the signaling message is received in a first radio receiver included in said fixed unit.

6. *(Previously Presented)* The method for multiple access according to claim 5, wherein the signaling multiframe is received in the first radio receiver by means of the first controller means in order that the selected virtual identity will be marked as occupied and thereafter is broadcast by means of said pilot channel.

7. (*Previously Presented*) The method for multiple access according to claim 1, wherein the signaling multiframe is formed by a maximum number of virtual identities for signaling that is a function of the maximum duration permissible for said signaling multiframe.

8. (*Currently Amended*) A system for multiple access in a radio communication system which comprises at least one fixed unit having an associated coverage area within which is located a set of remote units, wherein the fixed unit and the remote units employ time division multiple access techniques to establish communications and to interchange signaling messages by means of a signaling multiframe ~~that is used in both transmission directions~~, wherein the fixed unit comprises a first controller means for increasing or/and decreasing a predetermined number of virtual identities for signaling, which are independent of the true identities of the remote unit and generated by the first controller, based on the level of occupancy of the signaling multiframe, wherein a remote unit only uses a virtual identity in the signaling multiframe when sending a message and releases the virtual identity after the message transmission is complete.

9. (*Previously Presented*) The system for multiple access according to claim 8, wherein the number of the virtual identities is less than the number of the remote units.

10. (*Previously Presented*) The system for multiple access according to claim 9, comprising the fixed unit a first radio transmitter for broadcasting the virtual identities over a pilot channel in the downlink direction of the transmission.

11. (*Previously Presented*) The system for multiple access according to claim 10, comprising the remote unit a second radio receiver for receiving said pilot channel, that is supplied to a second controller means for recording the predetermined number of virtual identities for signaling.

12. (*Previously Presented*) The system for multiple access according to claim 11, wherein the second controller means is adapted for selecting a virtual identity when the remote unit wishes to transmit a signaling message so as to insert the signaling message inside the virtual identity selected, so as to be transmitted by a second radio transmitter so that a first radio receiver included in the fixed unit receives the signaling message.

13. (*Previously Presented*) The system for multiple access according to claim 12, wherein the first radio receiver is adapted for supplying the first controller means with the signaling multiframe, in order that the selected virtual identity is marked as occupied and thereafter is broadcast over the pilot channel.

14. *(Previously Presented)* A system for multiple access according to claim 8, wherein said first controller means is adapted for generating a number of virtual identities for signaling as a function of the level of occupancy of said signaling multiframe, so that there is a maximum number of virtual identities for signaling which is a function of the maximum duration permissible for said signaling multiframe.

15. *(Previously Presented)* A fixed unit according any claim 8, comprising a first controller means for increasing or/and decreasing the predetermined number of virtual identities for signaling based on the level of occupancy of the signaling multiframe.

16. *(Previously Presented)* A remote unit according to claim 8, comprising a second radio receiver for receiving the pilot channel, that is supplied to a second controller means for recording the predetermined number of virtual identities for signaling.

17. *(Previously Presented)* A remote unit according to claim 16, choosing a virtual identities for signaling of the received inside the pilot channel.